Listing and Amendments to the Claims

1. (Currently amended) A method ~~Method~~ for coding a picture sequence comprising a hierarchical temporal analysis of a group of pictures performing a motion compensated temporal filtering of successive pairs of pictures to supply low temporal frequency pictures and high temporal frequency pictures at different temporal decomposition levels, this analysis realizing, for a given temporal decomposition level and for a pair of low temporal frequency pictures, a motion estimation operation ~~step~~ of a current picture B to a previous reference picture A to supply motion vectors then a motion compensated temporal filtering of these pictures to supply a low temporal frequency picture (L) and a high temporal frequency picture (H) at a greater decomposition level, the [[said]] temporal filtering being replaced by an intra mode coding to obtain at least one low (L) or high (H) frequency picture if the current picture has a level of correlation with a previous picture lower than a threshold, the low frequency pictures (L) obtained being thus scaled to be adapted, at the energy level, to the pictures obtained by the [[said]] motion compensated temporal filtering, ~~also~~ the method comprising,

[[-]] among the low frequency picture and the final high frequency decomposed pictures obtained at the end of the analysis: a selection operation ~~step~~ to select the low (L) or high (H) frequency pictures obtained by intra coding of a picture at a lower decomposition level with the additional condition, for the high frequency pictures, that this picture is derived itself from an intra coding, and [[.]]

[[-]] a calibration operation ~~step~~ to calibrate the selected pictures by carrying out at least one reverse operation ~~step~~ of the scaling operation ~~step~~, for their coding.

2. (Currently amended) The method ~~Method~~ according to claim 1, wherein the number of reverse operations ~~steps~~ carried out corresponds to the number of successive intra coding operations of a low frequency picture (L) to arrive at the picture selected if this involves a low frequency selected picture, this number being decreased by one if it involves the high frequency selected picture (H) [[(L)]].

3. (Currently amended) The method ~~Method~~ according to claim 1, comprising, for the calculation of a low L or high H frequency image at a given temporal level, a temporal filtering

between the current picture and a following picture of the following pair of pictures of the lower temporal level, if the correlation between the current picture and the previous picture is lower than a threshold and if the correlation between the current picture and this following picture is greater than a threshold, the other H or L picture of the given temporal level being obtained by intra coding, this filtering operation being assimilated with the intra coding and not with the temporal filtering for the selection operation ~~step~~.

4. (Currently amended) The method ~~Method~~ according to claim 1, comprising: assigning a picture number to each picture of the group of pictures, and monitoring these numbered pictures during the decomposition by attributing a counter for each number, this counter being updated ~~at each step~~ as follows:

[[-]] the counter is increased each time a low frequency picture (L) is obtained in intra mode,

[[-]] the counter remains unchanged each time a high frequency picture (H) is obtained in intra mode or during a temporal filtering with a following picture,

[[-]] the counter is reset each time a picture is obtained by motion compensated temporal filtering with a previous picture,

the reverse operations ~~steps~~ being carried out according to the value of the counters.

5. (Currently amended) The method ~~Method~~ according to claim 1, wherein the high frequency pictures H and low frequency pictures L are obtained, during the motion compensated temporal filtering of two successive pictures A and B, from the following operations:

$$\begin{cases} H = \dfrac{B - MC_{A \leftarrow B}(A)}{\sqrt{2}} \\ L = \sqrt{2}.A + MC^{-1}_{A \leftarrow B}(H) \end{cases}$$

MC corresponding to the motion compensation according to the B to A motion vector field, of the picture A or H[[.]],

and wherein the pictures L and H are obtained, from intra coding, according to the formulas

$$\begin{cases} H = B \\ L = \sqrt{2}.A \end{cases}$$

6. (Currently amended) The method ~~Method~~ according to claim 3, wherein the pictures H and L are obtained by filtering with the following picture for H and by intra coding for L, according to the following formulas:

$$\begin{cases} H = \dfrac{B - MC_{B \to C}(C)}{\sqrt{2}} \\ L = \sqrt{2}.A \end{cases}$$

MC corresponding to the motion compensation according to the B to C motion vector field, of the picture C.

7. (Currently amended) The method ~~Method~~ according to claim 1, wherein the calibrated pictures obtained by temporal analysis are then processed by spatial analysis.

8. (Currently amended) The method ~~Method~~ according to claim 1, wherein the level of correlation is calculated by taking into account the number of connected pixels, that is, connected by a motion vector.

9. (Currently amended) A decoding ~~Decoding~~ method ~~of~~ for a sequence of [[a]] coded images, the coding realizing an intermediate operation ~~step~~ of hierarchical temporal analysis of the motion compensated temporal filtering (MCTF) type providing high frequency and low frequency pictures for their coding, the method comprising:

a decoding operation ~~step~~ giving high frequency and low frequency decoded pictures,

at least one reverse calibration operation ~~step~~ for pictures selected from the high and low frequency decoded pictures, the selection of the pictures and the number of reverse operations ~~steps~~ being dependent on an element of information associated with the coded picture, to provide pictures to ~~synthesise~~ synthesize, and

a temporal synthesis operation ~~step~~ from decoded pictures not selected and said pictures to ~~synthesise~~ synthesize.

10. (Currently amended) The method ~~Method~~ according to claim 9, wherein the information associated with the coded picture is the value of a counter assigned to the picture during the coding.

11. (Currently amended) A coder ~~Coder~~ for the implementation of the method according to claim 1, comprising a temporal analysis circuit using the motion compensated temporal filtering and the intra coding, the circuit selecting, among the low frequency picture and the final high frequency decomposed pictures obtained at the end of analysis, the pictures obtained by an intra coding of a picture at the lower decomposition level, with the additional condition, for the high frequency pictures, that this picture is derived itself from an intra coding, and the circuit carrying out at least one scaling operation ~~step~~ for the pictures selected.

12. (Currently amended) A decoder ~~Decoder~~ for the implementation of the method according to claim 9, comprising a decoding circuit to provide high and low frequency decoded pictures and a temporal synthesis circuit of pictures to ~~synthesise~~ synthesize, also comprising means to perform a reverse calibration of selected high and/or low frequency decoded pictures to provide pictures to be synthesized, the selection of the pictures and the number of reverse calibrations being dependent on an element of information associated with the picture to decode, and received by the decoder.